

## MEM Eagle liquid and powder medium

MEM Eagle was developed as a modification of Earle's Basal (BME) medium. MEM is a non-complex medium well suited for a wide range of mammalian cells when used with a serum supplement.

Product	Cat. No.	Unit
<b>MEM liquid medium with Earle's salts, with 0.85 g/l NaHCO<sub>3</sub></b> without L-glutamine Storage temperature: +2 – +8 °C	F 0315	500 ml
<b>MEM liquid medium with Earle's salts, with 2.2 g/l NaHCO<sub>3</sub></b> without L-glutamine Storage temperature: +2 – +8 °C	F 0325	500 ml
<b>MEM liquid medium with Earle's salts, with 2.2 g/l NaHCO<sub>3</sub>, with stable glutamine</b> Storage temperature: +2 – +8 °C	FG 0325	500 ml
<b>MEM liquid medium with Earle's salts (10x)</b> without NaHCO <sub>3</sub> , without L-glutamine Storage temperature: +2 – +8 °C	F 0335	500 ml
<b>MEM liquid medium with Hanks' salts</b> with 0.35 g/l NaHCO <sub>3</sub> , without L-glutamine Storage temperature: +2 – +8 °C	F 0345	500 ml
<b>MEM liquid medium with Earle's salts</b> without NaHCO <sub>3</sub> , without L-glutamine, without phenol red Storage temperature: +2 – +8 °C	F 0385	500 ml
<b>MEM liquid medium with Earle's salts, with 20 mM HEPES</b> without NaHCO <sub>3</sub> , without L-glutamine Storage temperature: +2 – +8 °C	F 4315	500 ml
<b>MEM powder medium with Earle's salts</b> without NaHCO <sub>3</sub> , with L-glutamine Storage temperature: +2 – +8 °C	T 031-01 T 031-05 T 031-10 T 031-50	1 l 5 l 10 l 50 l
<b>MEM powder medium with Hanks' salts</b> without NaHCO <sub>3</sub> , with L-glutamine Storage temperature: +2 – +8 °C	T 032-05 T 032-10 T 032-50	5 l 10 l 50 l
<b>MEM powder medium with Earle's salts, with amino acids (NEA)</b> without NaHCO <sub>3</sub> , with L-glutamine Storage temperature: +2 – +8 °C	T 437-05 T 437-10 T 437-50	5 l 10 l 50 l

Product	Cat. No.	Unit
<b>MEM powder medium with „spinner“-salts for suspension cultures</b> without NaHCO <sub>3</sub> , with L-glutamine Storage temperature: +2 – +8 °C		These media are also available as a standard in powder with a minimum order of 500 litres; pack sizes are 10 or 50 litres.
<b>MEM powder medium with Earle's salts</b> without NaHCO <sub>3</sub> , with L-glutamine, without phenol red Storage temperature: +2 – +8 °C		

## Formulation

In the following tables you will find:

- the general composition of the MEM media
- the composition of the MEM medium with Earle's salts, Hanks' salts and "spinner"-salts
- two examples of use for the production of ready-to-use MEM media

Tab. 27: Composition of the MEM media

Substance	Concentration (mg/l)	Substance	Concentration (mg/l)
L-arginine-HCl	126	L-tyrosine	36
L-cystine	24	L-valine	46
L-glutamine	292	Folic acid	1
L-histidine-HCl·H <sub>2</sub> O	42	Cholin chloride	1
L-isoleucine	52	Nicotinamide	1
L-leucine	52	D-Ca-pantothenate	1
L-lysine-HCl	73	Pyridoxal-HCl	1
L-methionine	15	Thiamine x HCl	1
L-phenylalanine	32	Riboflavin	0.1
L-threonine	48	Myo-inositol	2
L-tryptophane	10		

Tab. 28: Composition of the MEM medium with Earle's salts, with Hanks' salts and with „spinner“-salts

Substance	Earle's salts (mg/l)	Hanks' salts (mg/l)	„spinner“-salts (mg/l)
NaCl	6800	8000	6800
KCl	400	400	400
Na <sub>2</sub> HPO <sub>4</sub> ·2H <sub>2</sub> O	-	60	-
NaH <sub>2</sub> PO <sub>4</sub> ·H <sub>2</sub> O	140	-	1400
KH <sub>2</sub> PO <sub>4</sub>	-	60	-
MgSO <sub>4</sub> ·7H <sub>2</sub> O	200	200	200
CaCl <sub>2</sub>	200	140	-
D-glucose	1000	1000	1000
Phenol red	10	10	10
NaHCO <sub>3</sub>	2200	350	2200

## Production of ready-to-use MEM media

Example of use for the production of a ready-to-use MEM medium with Earle's salts from a 10x-concentrate.

**Tab. 29: Production of 1 l ready-to-use MEM medium with Earle's salts without non-essential amino acids (NEA)**

	Cat. No.	Volume (ml)
(10x) MEM liquid medium with Earle's salts	F 0335	100.0
(100x) L-glutamine	K 0282/3	10.0
(7.5 %) NaHCO <sub>3</sub>	L 1713*	29.3
(100x) antibiotics (if applicable)		10.0
Dissolve in sterile water	L 0015/20	ad 1000.0

\* Instead of NaHCO<sub>3</sub> (cat. no. L 1713), 20 ml of HEPES buffer (1 M) (cat. no. L 1613) may be used per litre of medium.

Example of use for the production of a ready-to-use MEM medium from the concentrates or the necessary additives.

**Tab. 30: Production of ready-to-use MEM**

	Cat. No.	Unit (ml)
(50x) MEM amino acids without L-glutamine	K 0363	100
(100x) MEM vitamins	K 0373	100
L-glutamine (200 mM) or L-alanyl-L-glutamine (200 mM)	K 0282/3 or K 0302	50/100 or 50
(100x) non-essential amino acids (NEA)	K 0293	100
HEPES buffer (1 M)	L 1613	100
NaHCO <sub>3</sub> (7.5 %)	L 1713	100

### Reference:

Eagle, H.; *Science* **130**, 432 [1959]